

***Uranie* (1820) Shipwreck and Survivor Camp sites: Assessment of Cultural Significance**



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Cover image: Drawing of the camp and the wreck of the *Uranie* in the Falkland Islands, by J. Alphonse Pellion 1820
(State Library of Western Australia, Perth)

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Introduction

'Significance' is defined in the Oxford English Dictionary 'the quality of being worthy of attention or importance'. In this context, assessing the cultural significance of the *Uranie* (1820) shipwreck and survivor-camp sites, aims to define the perceived and deemed importance of these places.

As expressed in the *Manual for Activities directed at the Underwater Cultural Heritage: Guidelines to the Annex of the UNESCO 2001 Convention* (Maarleveld *et al.*, 2013: 83):

Like beauty, significance cannot be defined in legal terms. Nevertheless, although it is difficult to strictly define, significance is quite easy to understand. In relation to a site, an object or a story, significance is the quality that makes it meaningful or of consequence, for a person, for a group, or for humanity as a whole. It is precisely because of its significance that something is regarded as heritage, as a legacy to be preserved and passed on to future generations. That is why significance drives heritage management, interventions and protection. It was in fact in recognition of the universal 'significance' of underwater cultural heritage that a convention for its protection was called for in the first place.

Since heritage sites are hold a wide range of values, the significance of cultural heritage possesses different meanings for a diversity of groups, which may evolve over a period of time. An accurate statement of significance is based on a thorough evaluation, which properly understands the meanings and values behind a particular site and is the foundation on which all management plans should be built.

The function of this document is to objectively establish the intrinsic qualities of the site and the diverse scales and/or dimensions establishing it as significant (Maarleveld *et al.*, 2013).

Guidelines

In order to conform to international regulations and guidelines related to maritime heritage, the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage and more specifically its accompanying Annex will be used as a basis or guidance for the present document. In the Annex of the 2001 Convention, rule 14 of this document stipulates that 'an assessment that evaluates the significance...of the underwater cultural heritage and surrounding environment' (Maarleveld *et al.*, 2013:75) has to be produced as a first step process. Initially, before being incorporated as the Annex of the 2001 UNESCO Convention, this document (named the International Charter on the Protection and Management of Underwater Cultural Heritage) adopted by ICOMOS in 1996, was the result of the first mandate of the International Committee on the Underwater Cultural Heritage (ICUCH) to guide the management and protection of underwater cultural resources. As a consequence, and in order to incorporate criteria related to terrestrial and maritime heritage, the Australia ICOMOS Burra Charter will be referenced through the latest amended versions of the Practice Notes: Understanding and assessing cultural significance (2013) formerly known as the Guidelines to the Burra Charter: Cultural Significance (1988).

Additionally, and to provide a diverse and wider perspective, references will be made to the two other appropriate and complementary documents on the subject. Firstly, from England, the *Criteria for Designating Wreck Sites* adopted by the Advisory Committee on Historic Wreck Sites (ACHWS) from English Heritage and the Department for Culture, Media and Sport (DCMS) is used for assessing the importance of wrecks and wreck sites and for considering the designation of a site under the terms of the *Protection of Wrecks Act 1973*. Secondly from Australia, the *Guidelines for the Management of Australia's Shipwrecks* established in 1994 by the Australasian Institute for Maritime Archaeology (AIMA) and the Australian Cultural Development Office from Canberra (Henderson 1994), which provides a highly detailed set of guidelines to evaluate, define and present the meaning for the internal nature and degree of each significance criteria in view of designation under the *Historic Shipwreck Act 1976*.

Within these documents, the list of significance criteria differs from one to another. Some are mutually exclusive and others are marginal. For instance, the need to evaluate the historical significance is required within each document whereas the technical, accessibility and diversity criteria are excluded from the other documents. For this reason and in order to provide an assessment as inclusive as possible, only criteria shared by at least two or three of the selected documents will be retained to compile the evaluation. The preferred criteria are not presented in order of ranking, and should not be

regarded as definitive. The sites do not need to meet all the criteria in order to be chosen for designation, simply because criteria are indicators added to a larger perception which is established on specific occurrences for each site (English Heritage 2010).

Historical Background

The origin of this voyage is the result of Louis de Freycinet's ambition to lead his own scientific expedition. After obtaining royal support for his exploration proposal, he was given the command of the corvette *l'Uranie* (350 tons, 36m long, having an upper, a lower and a main deck, and some additional fittings to suit its change from naval to scientific use) with 120 men and 23 officers/scientists (and a stowaway in the person of Rose de Freycinet) to conduct his mission. The objectives were based on scientific purposes (even if in the background, the expedition was carrying the French long standing hopes and intentions to find an adequate location to establish a halfway house / colony between Europe and Asia), to investigate the shape of the earth, elements of terrestrial magnetism, meteorology, geography, natural history, and anthropology.

The itinerary of the voyage led the vessel to undertake a circumnavigation, while stopping at numerous locations for scientific, diplomatic or operational purposes such as Rio de Janeiro, Cape Town, Port Louis (Mauritius), Shark Bay (north-west of Western Australia), Dilli (Timor), Hawaii, Port Jackson (Sydney) and the Falkland Islands. The last location became the final resting place of the *Uranie*, after striking a rock at the entrance of Berkeley Sound (east coast of the Falkland Islands). There the ship foundered 300m from the shore, but all lives were saved and soon a survivor camp was set up along the beach and sand dunes for three months. This situation lasted until the acquisition of a vessel passing by, renamed *La Physicienne*, which completed the journey back to France after resting in Montevideo. During this time the precious scientific cargo composed of specimens, samples, notebooks and logbooks were only partly salvaged along with equipment and fragments of the ships deemed necessary for the establishment of the survivors' camp.

Discovery of Sites and Previous Assessments

Mr David Enyon was the first to record the position and visit a satellite section of the wreckage of the *Uranie* shipwreck site in 1971 while diving with Mr Ken Halliday. As a local, knowledgeable diver interested in historic shipwrecks and leader of a local survey group working in conjunction with the local Museum and National Trust, Mr Enyon compiled a database over many years containing information about Falkland Islands Shipwrecks (McCarthy 2002).

The first initial archaeological survey of both sites (shipwreck and survivor camp) was conducted in March 2001 by an archaeological team led by Dr Michael McCarthy on behalf of the Department of Maritime Archaeology, Western Australian Museum (with the help of the Falkland Island Museum and National Trust as well as Falkland Island Sub-Aqua Club), and found what appeared to be the main body of the shipwreck site.

This expedition provided the basis of the necessary preliminary assessment in accordance with the UNESCO Guidelines to the Annex of the 2001 Convention. As explained in the Technical Data Report (McCarthy 2002:69), it was only

...a non-disturbance search and survey, precluding the systematic removal of overburden on land or the sand layer under which the wreck lies; only materials lying exposed or capable of being hand-fanned in a non-damaging manner were recorded, obviating any assessment of deeply buried wreckage or remains at sea or on land.

Site Information

From the archaeological survey conducted in 2001, preliminary data have been collected in order to confirm the site's identification. The sites are located approximately 800 m south-east of the Long Island Farm, adjacent to a line of parallel reefs visible at low tide along the beach of Uranie Bay within Berkeley

Sound (on the north-eastern corner of the Falkland Islands). The shipwreck is situated at a depth of 4-5 m possibly broken and mainly buried (GPS of the main body of the site: 51°35.063'S, 58°03.630'E) lying on a sandy seafloor with thick kelp beds surrounding the site in distinct linear formations, fixed to substrate such as rocks or protruding wreckage elements. The survivors' camp site is spread over a wide area from the high water mark and low ridge running along the shore of the bay with several concentrations of archaeological material, and appear to be generally composed of wreck material scatters and camp remains clusters.

During the 2001 survey, McCarthy established that at the time the sites consisted of

...a main body of wreckage offshore at Uranie Bay; a wreckage 'plume' on the seabed from there to the shore; wreckage cast ashore (from the southwestern head of the bay through to the beach opposite the farmhouse); and a survivor's camp that lies between two streams in the middle of the bay (2002:72).



Figure 1: Approximate location in Uranie Bay (Berkeley Sound, Falkland Islands) of the three archaeological zones of the Uranie site (Google Earth)

Due to the proximity of these various areas, and in order to define them as components of a unified seamless single archaeological site (or future integrated protected precinct), they should be delineated as three geographical zones of a same event. Namely, they should be regarded as:

- Zone 1: the *Uranie* shipwreck and wreckage plume below the low water mark (LWM);
- Zone 2: the beach/foreshore and intertidal zone between the LWM and the high water mark (HWM);
- Zone 3: the survivors' camp areas above HWM.

The beach timber scatter comprises fragments of knees, frames, planking and cabin (or deckhouse) timbers, all showing iron and copper fastenings, as well as small fragments of copper sheathing, pulley sheaves and firebricks. On the camp areas and clusters, based on the surface visibility, artefacts include fine sherds, bottle and ceramic fragments, fastenings, a shoe fragment, and collapsed stone/rock alignments. On the wreck site several portions of connected keel, frames, and keelson assemblages are protruding from the seafloor, suggesting a larger part of the wreck is buried under the sand. Additionally

an accumulation of firebrick and examples of iron ballast 'pigs' were observed, and complete the 24 m length of visible wreckage underwater.

Evaluation

The assessment for cultural significance of an item or a site is generally based on a set of outlined and defined criteria to provide a framework for management and research purposes (Mitchell 2013). Evaluation criteria provide means for assessing and describing the significance of shipwrecks and to identify attributes that should be retained (Henderson 1994). In other words, as Kenderdine (1997:26) explains

...evaluation criteria...are inherently linked to the values that our culture places on heritage and as such are constantly changing. It has been recognized that it may be necessary to reassess shipwrecks in the future, in accordance with the changes in cultural values that may affect their significance. However, to allow for management strategies to be proposed, a shipwreck site should be evaluated in terms of agreed criteria.

The present evaluation is based upon an appreciation of the significance of the shipwreck and survivor camp in terms of their archaeological, historical, scientific and social values. Additionally, their importance is also determined with comparative criteria in order to evaluate their degree of significance through their representativeness, rarity, and level of documentation (the site's degree of Condition/Completeness/Fragility and the Interpretive Potential both still need to be archaeologically assessed and will compose with this present document the basis a future fully exhaustive assessment).

1. Archaeological Significance:

This criterion, as expressed by the Annex, relates to 'the potential to yield important information about the past through archaeological investigation' (Maarleveld *et al.*, 2013:84). Furthermore the AIMA guidelines illustrate this aspect by linking it to

...the potential to yield information contributing to an understanding of history, technological accomplishments and social developments...contributing to a wider understanding of the history of human activity (Henderson, 1994:23).

The *Uranie* site is of outstanding archaeological significance as it represents the only known example of a French scientific expedition vessel with an associated survivor camp from the post-Napoleonic period to be examined from an archaeological perspective. Detailed analyses of the structural as well as artefactual remains and their distribution will greatly contribute to some of the important research questions to be resolved, regarding the early 19th-century French shipbuilding techniques, together with the notions of shipwreck formation processes and the characteristics of isolated survivor camps. The highly important archaeological potential of survivor camps can be fathomed through the work of Gibbs (2003) and Nash (2005). The site provide the opportunity to examine a French scientific exploration cargo, and the ship's stores together with the personal items recovered will give valuable insights into the lives of French naval scientific seafarers in the early 1800s.

2. Historical significance:

English Heritage's 'Period' criteria states that

...the historic interest of all types of wreck which characterize a category or period should be considered, and the selection of sites for protection should include wrecks which illustrate important aspects of social, political, economic, cultural, military, maritime and technological history (English Heritage 2010:3).

As expressed in the Annex, the historical significance is ‘the association of a site or an object with people, events, activities, places and themes in local, regional, national or international history’ (Maarleveld *et al.*, 2013:84). Furthermore the AIMA guidelines illustrate these criteria by linking them to

...the evolution and pattern of history...[or]...in relation to a figure, event, phase or activity of historic influence (Henderson, 1994:22).

Moreover, the Practice Notes of the Australia ICOMOS Burra Charter (2013:3) suggests that in order

...to understand the historic value of a place...[we should]...ask:

- Is the place associated with an important event or theme in history?
- Is the place important in showing patterns in the development of history locally, in a region, or on a state-wide, or national or global basis?
- Does the place show a high degree of creative or technical achievement for a particular period?
- Is the place associated with a particular person or cultural group important in the history of the local area, state, nationally or globally?

The *Uranie* site is significant in the Falkland Island history due to its relation to one brief but important episode of the French presence. Additionally, it is possibly one of the earliest known ships wrecked (1820) along the coast of the Falkland Islands linking it to the early period of European settlement. The associated survivor camp provides archaeological evidence of possibly the only European contact site of this nature on the shore of the Falkland Islands.

The site is significant to French history as the *Uranie* carried the first scientific expedition undertaking a circumnavigation immediately post-Napoleonic period, departing Toulon in 1817. The *Uranie* voyage is significant to the history of European maritime scientific expeditions undertaken during the late 18th century and early 19th centuries. The site is also important not only in respect to their association to the second known woman (Rose de Freycinet) to undertake a circumnavigation, but also to the first to write a journal about her venture. Its importance for France is also linked to the fact that with the exception of Lapérouse’s ships (*La Boussole* and *L’Astrolabe* wrecked in the Solomon Islands in 1788) the *Uranie* is the only known vessel used for French scientific exploration purposes to have been lost.

The site is also significant from an Australian perspective, because the vessel and expeditions were under the leadership of Louis de Freycinet, the first geographer to publish a complete map of Australia’s coastline. Furthermore, the expedition anchored and camped on the shores of Shark Bay (Western Australia), and proceeded towards Dirk Hartog Island to remove the pewter plate left by Dutch navigator Willem de Vlamingh in 1697 and bring it back to France (being retroceded to Australia in 1947).

3. Scientific significance:

In the 2001 Annex, the definition of scientific significance is associated with

...the measure in which a site, an object or collection may be relevant to settle topical research questions in archaeology, history or any other science (Maarleveld *et al.*, 2013:84).

Furthermore the AIMA guidelines illustrate the notion of ‘Scientific’ significance by linking it to

...the potential to yield information about the composition and history of cultural remains through examination of physical and chemical processes” (Henderson, 1994:24).

In another word, the following question from the Practice Notes of the Australia ICOMOS Burra Charter (2013:4) should be asked in order to appreciate the scientific value of a site:

...Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?

The *Uranie* site is scientifically significant for its potential to reveal information on:

- Archaeology Ships and Shipwrecks – more specifically of French post-Napoleonic exploration ships and seafaring; life onboard these vessels; and the wider European and global economies of the early 19th century;
- Investigation of site formation processes to determine the degradation process of the shipwreck;
- *In-situ* preservation and conservation of shipwrecks through study of the relationship between the physical environment and the condition of the wreck and relics;
- Site management issues, according to the notion of 'Mutual Heritage' or 'Shared Maritime Cultural Heritage Abroad', because it relates to the remains of a French shipwreck, lost along the coast of a British territory, and extensively studied by Australian archaeologist due to its significance and relation to Australia;
- The comparative study and analysis of historical and archaeological records to test their complementarity, and evaluate the contribution of both types of data to better understand their information potential;
- Archaeology of crisis and adaptation with a detailed research, survey and analysis of the survivor camp. As an example of a survivor's camp that was operated post-wrecking on strict military lines, the *Uranie* site also provides an important opportunity to examine shipwreck survivor behaviour, in this instance mirroring others similar sites such as the USS *Saginaw* in 1870 (Van Tilburg 2010) and contrasting starkly with the infamous VOC ship *Batavia* in 1629 (Dash 2002); and
- History of women at sea, by looking at this venture through the prism of Rose de Freycinet's experience (being the second woman to circumnavigate the globe but the first to leave a written journal).

4. Social significance

As presented in the AIMA guidelines, a site or an artefact is socially significant through contemporary 'associations with a community or communities ... for social, cultural or spiritual reasons' or because its importance is 'highly valued for reasons of social, cultural, religious, spiritual, aesthetic or educational associations by a community' (Henderson, 1994:23).

Accordingly, as presented in the Practice Notes of the Australia ICOMOS Burra Charter (2013:4), the following questions could be asked to understand more thoroughly the notion of social value:

- Is the place important as a local marker or symbol?
- Is the place important as part of community identity or the identity of a particular cultural group?
- Is the place important to a community or cultural group because of associations and meanings developed from long use and association?

The *Uranie* site is socially significant because it holds a cultural importance and value for the whole community of the Falkland Islands in general, due to its connections to the early phase of the European presence on the islands. The site is also valued by its link to the whole *Uranie* story, because 'the de Freycinet's social legacy is multi-faceted, residing mainly in the journals and their possible analysis, comparison and evaluation' (McCarthy, 2002:81). Moreover, it is socially significant for France in general as being relics from the French Navy, and more specifically to the de Freycinet's descendants for being part of their family history.

Archaeological studies of this site also have the potential to increase its educational importance through displays and interpretation materials in the Falkland Islands for the whole local community as part of outreach programs at the Falkland Islands Museum and National Trust. Additionally, it would attract international interest and awareness on the knowledge of the late 18th century and early 19th century

French scientific expeditions; and draw the attention of a broader public audience on the Falklands Islands maritime heritage hence enhancing the overall prestige of the Falklands Islands.

5. Degree of representativeness

The AIMA guidelines provide a definition of this concept, detailing its importance in

...demonstrating the characteristics of a class of cultural items ... [or] ... a range of human activities (including the way of life, philosophy, custom, process, waterway use, function, design or technique (Henderson, 1994:26).

The English Heritage notion of 'Group Value' enhances this degree of importance through the association of a shipwreck site to another contemporary feature (English Heritage 2010).

The *Uranie* site show a high degree of representativeness of French Naval vessels involved in the long distance voyaging such as scientific explorations and circumnavigations. Within this category the *Uranie* shipwreck represents specifically the material remains of a French Naval ship dating from the immediate post-Napoleonic period, known as the Bourbon Restoration during which the monarchy returned to power after the fall of Napoleon.

The *Uranie* shipwreck and survivor camp site is representative of the fate of many vessels, their cargo and their survivors along the Falklands Islands coast at a time when navigation aids were unreliable in a part of the world where the sea (Furious Fifties of the South Atlantic Ocean) and meteorological conditions are particularly unfavorable. Additionally the site is an example of the risks involved in the pursuit of long distance voyaging and scientific exploration when world cartography was still largely unknown. This site represent a particularly important group values due to its linked dichotomy and intrinsic nature multiple components of a wrecking event, when officers and crews were suddenly thrown into an enforced adaptive context.

6. Degree of rarity

This degree of significance can be used for a site or artefact that possesses

...rare, endangered or uncommon aspects of history...[being important]...in demonstrating a distinctive way of life, custom, process, water-way use, function, or design which is no longer practiced, is in danger of being lost or is of exceptional interest to the community (Henderson 1994:26; Kenderdine 1997:26).

Even more, 'there are some wreck categories which, in certain periods, are so scarce that all surviving examples that still retain some archaeological potential should be preserved' (English Heritage 2010:3).

The highest degree of rarity is attached to the *Uranie* shipwreck site (and to a certain extent to the survivor camp too), because among the list of French circumnavigation scientific exploration ships, only two other vessels of this category are known to have been lost. These are the ships of Lapérouse (*La Boussole* and *L'Astrolabe*), lost in 1788 along the reefs of Vanikoro Island in the Solomon Islands, and which have been extensively investigated archaeologically, surveyed and excavated over several campaigns by different international teams. The *Uranie* shipwreck is, at this stage, the only known surviving site of this type and category, and has not yet been fully scientifically and /or archaeologically examined.

7. Level of documentation

The significance of a site 'may be enhanced by close historic association with documented important historical events or people, or by supporting evidence of contemporary records or representations' (English Heritage 2010:3).

In the case of the *Uranie* site, the seminal document attached to this expedition is the scientific report published by Louis de Freycinet in 1824 titled *Voyage autour du monde fait par ordre du Roi sur les corvettes de S.M. l'Uranie et la Physicienne, pendant les années 1817, 1818, 1819 et 1820*, in 13 written volumes and 4 port-folio of drawings and maps. More significant and rare is the journal (in the form of letters) of Rose de Freycinet (Louis' wife), being the first example of this type written by a woman during a circumnavigation voyage. Additionally, this expedition saw the removal of the de Vlamingh plate from Dirk Hartog Island, Shark Bay, Western Australia, (commemorating the first European landing in Australia), which was returned to Australia from France in 1947.

Statement of Significance

The *Uranie* site's considerable significance is reflected in the wide array of criteria, degree and level of importance (archaeological, historical, scientific, social, representativeness, rarity and documentation) attached to their intrinsic nature and value

The *Uranie* is of particular historical significance as a French naval vessel employed in maritime scientific exploration in the immediate post-Napoleonic period in the still comparatively little known and yet to be completely charted Indo-Pacific region of the world. The loss of the *Uranie* at the Falkland Islands is also significant as a wreck event, highlighting the navigational risks and hazards facing late 18th and early 19th-century mariners, despite their personal skills and experience gained from new naval training curricula introduced into French naval academies in the 18th century. Furthermore, it is one of only three French exploratory vessels lost between 1788 and 1820 and thus provides the opportunity for comparative studies at various levels. Most importantly, is the rare incidence of the presence of a woman, Rose de Freycinet, on board the *Uranie* for the duration of the circumnavigation and her unique account of the voyage in a series of hand-written letters, subsequently compiled into a published journal.

The archaeological assemblages of the wreck of the *Uranie* that remain *in situ* and the material raised to date are significant in that they offer an opportunity to analyse aspects of the ship's construction in the context of French shipbuilding of the period and to hypothesise the process of wrecking, the degradation of the cultural material comprising the ship itself, the cargo and other items contained within the vessel. The knowledge gained will add to existing information in respect to the inventory of supplies carried on board ships of scientific exploration.

The fact that the survivors of the shipwreck left archaeological evidence of their campsite provides a potential resource for yielding valuable information on the individuals, their behaviour and management in a crisis situation.

The *Uranie* wreck site and the survivor camp are a prime example of shared maritime cultural heritage abroad involving an international set of interested parties. Those cultural values show how the remains of these sites have the potential to yield valuable information on the ship, the period, the context, the individuals and the journey of significance to the Falkland Islands community; residents of France, especially the descendants of persons on board the *Uranie*; and, the Australian nation. Global publicity of the sites has the potential to enhance their significance amongst a wider public audience.

References

- Australia ICOMOS, 2013, *Practice Notes: Understanding and assessing cultural significance*, Australia ICOMOS, Canberra.
- Dash, M., 2002, *Batavia's Graveyard*, Phoenix, London,
- English Heritage, 2010, *Protected Wreck Sites: Moving towards a new way of managing England's historic environment*, English Heritage, Portsmouth.
- Henderson, G.J., 1994, *Guidelines for the Management of Australia's Shipwrecks*, Australian Institute for Maritime Archaeology and the Australian Cultural Development Office, Canberra.
- Gibbs, M., 2003, *The Archaeology of Crisis: Shipwreck Survivor Camps in Australasia*, *Historical Archaeology*, Vol 37:128-145.

- Kenderdine, S, 1997, *Culture and heritage: shipwrecks and associated objects*, Environment Australia, Canberra.
- Maarleveld, T.J., Guerin, U., Egger, B. (eds), 2013, *Manual for Activities Directed at Underwater Cultural Heritage: Guidelines to the Annex of the UNESCO 2001 Convention*, UNESCO, Paris.
- McCarthy, M., 2002, *The Uranie site(s): Report of an inspection and the context of the survivor's camp, wreck, and wreckage emanating from the loss of L Corvette du Roi L'Uranie at the Falkland Islands in 1820*, Unpublished Report, Department of Maritime Archaeology, Western Australian Museum, No. 160.
- Mitchell, J., 2013, *Getting Shipshape: Assessing Shipwreck Significance*, Retrieved on 23 October 2013 from <http://flindersarchaeology.com/2013/08/23/getting-shipshape-assessing-shipwreck-significance/>
- Nash, M., 2005, Investigation of a survivor camp from the Sydney Cove shipwreck, *Bulletin of the Australasian Institute for Maritime Archaeology*, 29:9-24.
- Van Tilburg, H., K., 2010, *A civil Gunboat in Pacific Waters: Life on board USS Saginaw*, University Press of Florida, Gainesville.